

Prairie Ecosystems


What are they and why do we
care?

Gary Olson
MT FWP

What's a prairie (grassland) ecosystem?

- Generally considered dry, unattractive and non-productive
- Wind-blown, cold in the winter, hot in the summer
- "miles from anywhere"
- Rarely wet, but when it is, a "gumbo mess"
- Full of badger holes, prairie dogs and gophers
- Jackrabbits need to pack their lunch
- Every plant and animal has an equal opportunity to bite, sting or barb you

Actually... a complex natural
system generally dominated
by grasses that is:

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- Diverse - species, topography, climate, precip patterns
 - Productive - soils, lbs/acre, #'s of fauna
 - Dynamic - constantly changing in response to ppt, succession, fire, mgt, competition
 - Collection of specially adapted plants to extreme environmental conditions
 - "the American Serengeti"

Species Diversity: a complex relationship between grasses, forbs and shrubs



Habitat diversity (habitat types)



What's out there?

- Stream bottoms
- Coulees
- Wet meadows
- Benches and plateaus
- Foothills
- Grassland savannahs

Topographic Diversity

- different habitat types blend together
- enhances species richness
- increases total numbers of plant species
- maximizes grass, forb and shrub communities
- allows for wildlife use of "edges"

Grizzly Bear

- Classic prairie-user: forage and cover
- Uses topographic and species diversity
- Found along habitat edges
- Indicator species of environmental "richness"



Effects of Climate

- 8-20 inches ppt annually
- Moisture patterns variable by year, season
- Majority of ppt falls from May-July
- Wind
- Chinooks
- Snow drift patterns
- Thunderstorms
- Growing season length

Prairie Productivity

- Deep, rich soils some of the most productive in the world
- Produce tons/acre
- Hundreds of plant species
- Support huge numbers of wildlife and livestock
- Highly productive agricultural crops

A photograph of several purple flowers with yellow centers, likely prairie flowers, growing in a field of dry, brown grass. The flowers are in various stages of bloom, with some fully open and others as buds. The background is a dense field of dry grass, creating a textured, brownish background.

Prairie Dynamics: changes in
plant composition over time
and space

Dynamics (change) is due to:

- Plant succession
- Competition
- Precipitation patterns
- Fire
- Grazing by wildlife/livestock

Succession and Competition



Precipitation patterns, fire



Grazing management



So, why do we keep prairie ecosystems healthy?

- Plant/habitat type diversity
- Max. production - biomass
- Wildlife habitat
- Agricultural values
- Water quality
- Soil erosion
- Noxious weeds
- Open space
- Rural lifestyle



The Last Best Place?



Or, the last place you'd want
to be?

